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WHAT IS CLAIMED IS:

1. A phase comparator comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween, wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

2. A low pass filter comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween, wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

3. A voltage controlled oscillator comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel

formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

4. A frequency divider comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

5. An oscillator for a source line driver comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

6. An oscillator for a gate line driver comprising:
 - a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and
 - a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween, wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.
7. A digital-to-analog converter comprising:
 - a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and
 - a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween, wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

8. A pixel matrix circuit comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

9. A source line driver circuit comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

10. A gate line driver circuit comprising:

a semiconductor film provided over a silicon wafer and comprising a source region, a drain region and a channel

formation region provided between said source region and said drain region; and

a gate electrode provided adjacent to said channel formation region with a gate insulating film therebetween,

wherein lattices are continuously connected to each other at grain boundary of said semiconductor film according to high resolution TEM.

11. A phase comparator according to claim 1 wherein said phase comparator is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

12. A low pass filter according to claim 2 wherein said low pass filter is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

13. A voltage controlled oscillator according to claim 3 wherein said voltage controlled oscillator is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer,

a portable information terminal, a system display, a mobile computer and a portable telephone.

14. A frequency divider according to claim 4 wherein said frequency divider is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

15. An oscillator for a source line driver according to claim 5 wherein said oscillator is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

16. An oscillator for a gate line driver according to claim 6 wherein said oscillator is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

17. A digital-to-analog converter according to claim 7 wherein said digital-to-analog converter is incorporated

into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

18. A pixel matrix circuit according to claim 8 wherein said pixel matrix circuit is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

19. A source line driver circuit according to claim 9 wherein said source line driver circuit is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.

20. A gate line driver circuit according to claim 10 wherein said gate line driver circuit is incorporated into at least one of a video camera, a still camera, a head mount display, a car navigation system, a personal computer, a portable information terminal, a system display, a mobile computer and a portable telephone.